Thus, the disclosure provided herein should be considered as encompassing tools and the generation thereof for any total arthroplasty procedures.

Although the present invention has been described with reference to preferred embodiments, persons skilled in the art will recognize that changes may be made in form and detail without departing from the spirit and scope of the invention.

What is claimed is:

1. A surgical guide tool for use in the preparation of a proximal portion of a femur for the implantation of a total hip replacement prosthetic implant, the implant including a feature configured to abut against a resection surface of the proximal femur when the implant is fully implanted in the proximal femur in a manner that generally replicates a preoperatively planned implantation for the implant, the tool comprising: a mating region including a customized surface contour that is generally a negative of the proximal portion of the femur, the surface contour of the mating region being configured to matingly contact the proximal portion in a generally matching or interdigitating manner when the proximal portion is matingly received by the mating region and a saw guide, wherein, when the mating region matingly contacts the proximal portion, the saw guide is aligned with a resection plane generally corresponding to the resection surface.

2. The tool of claim **1**, wherein the saw guide includes at least one planar surface.

3. The tool of claim **2**, wherein the at least one planar surface forms a saw slot.

4. A surgical guide tool for use in total hip replacement surgery on a proximal portion of a femur having a head, a neck extending distally from the head, and a surface region distal the head, the tool comprising: a body including a saw guide and a mating region, the mating region including a customized surface contour that is generally a negative of the surface region of the proximal portion of the femur, the surface contour of the mating region being configured to matingly contact the surface region in a generally matching or interdigitating manner when the surface region is matingly received by the mating region, the saw guide and mating region being positioned relative to each other so the saw guide is positioned to guide a resection that generally corresponds to a preoperatively planned resection plane when the mating region matingly contacts the surface region, the surface region including at least a portion of a superior-posterior region of the neck, the at least a portion of a superior-posterior region of the neck starting between approximately 1 mm and approximately 5 mm after a cartilage covering the head terminates distally and extending between approximately 15 mm and approximately 35 mm towards a trochanteric fossa.

5. The tool of claim **4**, wherein the saw guide includes at least one planar surface.

6. The tool of claim **4**, wherein the at least a portion of a superior-posterior region of the neck has an inferior border that begins approximately midway along an intertrochanteric crest and follows along the axis of the neck.

7. The tool of claim **6**, wherein the at least a portion of a superior-posterior region of the neck has a superior border between approximately 1 mm and approximately 3 mm below a junction between superior and anterior surfaces of the neck.

8. A surgical guide tool for use in total hip replacement surgery on a proximal portion of a femur having a head, a neck extending distally from the head, and a surface region distal the head, the tool comprising: a body including a saw guide and a mating region, the mating region including a customized surface contour that is generally a negative of the surface region of the proximal portion of the femur, the surface contour of the mating region being configured to matingly contact the surface region in a generally matching or interdigitating manner when the surface region is matingly received by the mating region, the saw guide and mating region being positioned relative to each other so the saw guide is positioned to guide a resection that generally corresponds to a preoperatively planned resection plane when the mating region matingly contacts the surface region, the surface region including at least a portion of a superior-posterior region of the neck, the at least a portion of a superior-posterior region of the neck including a narrow band that follows along an intertrochanteric crest and has a medial-lateral width of between approximately 0.5 mm and approximately 8 mm.

9. The tool of claim **8**, wherein the saw guide includes at least one planar surface.

10. The tool of claim **8**, wherein the at least a portion of a superior-posterior region of the neck begins approximately midway along the intertrochanteric crest and extends at least approximately 5 mm towards a most superior tip of a posterior surface of a greater trochanter.

11. A surgical guide tool for use in total hip replacement surgery on a proximal portion of a femur having a head, a neck extending distally from the head, and a surface region distal the head, the tool comprising: a body including a saw guide and a mating region, the mating region including a customized surface contour that is generally a negative of the surface region of the proximal portion of the femur, the surface contour of the mating region being configured to matingly contact the surface region in a generally matching or interdigitating manner when the surface region is matingly received by the mating region, the saw guide and mating region being positioned relative to each other so the saw guide is positioned to guide a resection that generally corresponds to a preoperatively planned resection plane when the mating region matingly contacts the surface region, the surface region including at least a portion of a superior-anterior region of the neck, the at least a portion of a superior-anterior region of the neck starting between approximately 1 mm and approximately 5 mm after a cartilage covering the head terminates distally and extending between approximately 15 mm and approximately 35 mm to terminate before a tubercle.

12. The tool of claim **11**, wherein the saw guide includes at least one planar surface.

13. The tool of claim **11**, wherein the at least a portion of a superior-anterior region of the neck has a superior border approximately 1 mm to approximately 3 mm below a junction between superior and anterior surfaces of the neck.

14. The tool of claim **13**, wherein the at least a portion of a superior-anterior region of the neck has an inferior border that is between approximately 5 mm and approximately 10 mm from the superior boarder.

15. The tool of claim **11**, wherein the at least a portion of a superior-anterior region of the neck lies on an anterior greater trochanter, distal to a tubercle, and inferior to an origin of an obturator internus.

16. The tool of claim **15**, wherein the at least a portion of a superior-anterior region has a medial-lateral distance that measures between approximately 3 mm to approximately 14 mm.

17. The tool of claim **15**, wherein the at least a portion of a superior-anterior region has an inferior-superior distance that measures between approximately 3 mm to approximately 10 mm.

18. A surgical guide tool for use in total hip replacement surgery on a proximal portion of a femur having a head, a neck extending distally from the head, and a surface region distal